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PATTERNS OF RESEARCH PRODUCTIVITY AND KNOWLEDGE CREATION AT *THE ACCOUNTING REVIEW*: 1967 - 1993

Abstract: This paper presents an analysis of author productivity in *The Accounting Review* for the period 1967 through 1993. The stratification observed in other disciplines is evident and is associated with a set of "elite" schools. The most productive authors in TAR are dominated by graduates of these schools. It is also the case that these elite authors increasingly rely on other social science disciplines, notably financial economics and cognitive psychology, for producing accounting knowledge. Evidence is also provided which indicates that the process of elite formation at TAR is more consistent with the use of particularistic rather than universal criteria. There is a paradigm consensus in the U.S. academic community, which is contrary to what would be expected in a low-paradigm consensus field like accounting. The possible contribution of the AAA in forcing this consensus is discussed.

INTRODUCTION

Accounts of the American Accounting Association's (AAA) history by both Zeff [1966] and Flesher [1991] provide documentation of the central importance of accounting research to the mission of the (AAA). Like all business disciplines in the academy, accounting has become quite autonomous from practice over the last 30-40 years [Whitley, 1988]. With autonomy has come a notable change in the form of accounting research. Stephen Zeff, a former editor of *The Accounting Review* (TAR), commenting with concern about this change in the form of accounting knowledge, observed that the increasing rigor of accounting research methods (which began in the 1960s) was directing attention to narrower questions leaving the big, important questions largely ignored [Zeff, 1978, p. 133].

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From a contemporary vantage point, the denouement of this change in the form of academic accounting knowledge seems paradoxical.[1] Recently, a group of elite, U.S. accounting researchers issued a white paper entitled "A Statement on the State of Academic Accounting" in which they declared, "There is a widespread sense among accounting researchers and practitioners that academic accounting, particularly on the research level, currently faces a serious crisis" [Demski, et. al, 1991, p. 1]. This sentiment was reflected in Gary Sundem's presidential message calling for a Copernican revolution in accounting theory [Sundem, 1993], and Andy Bailey's presidential message a year later reflecting the "crisis" in his appeal for tolerance of the editorial process of the AAA's journals [Bailey, 1994]. There seems to be an acknowledged problem with the process of knowledge creation in the accounting academy, but there has yet been little systematic analysis of that knowledge process and how it may be contributing to the alleged crisis.

Much research under the rubric of the sociology of science has revealed that a characteristic of the knowledge production processes of virtually every academic field is stratification. That is, the great bulk of knowledge created, primarily in the form of scholarly texts, is done by a small proportion of the scholars in the field. Fields are hierarchical, controlled by an elite whose reputations are established by virtue of the quantity and quality of scholarly output they produce. Elite status affords individuals the power to control the access of others to the media through which a field's knowledge is disseminated; elites control reputations and the ability to participate in the knowledge production process of the field.

In the United States, the AAA is the most visible and significant way in which the accounting academy is organized. It publishes *The Accounting Review* (TAR), which is the oldest and most widely circulated academic accounting journal in the United States.[2] According to Hargens [1988, p. 139], scholarly

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[1]A distinction is made between accounting knowledge in practice and in the academy. This is to acknowledge the perception of a "schism" between academic and practicing accountants [see, e.g., AAA, 1979; Bricker and Previts, 1990]. This paper does not concern itself explicitly with the potential problem of different knowledge processes in accounting, but focuses only on the academy.

[2]According to Vargo and Agudelo [1991] the circulations of the four leading academic accounting journals are: *The Accounting Review*, 16,000; *Journal of Accounting Research*, 3,000; *Journal of Accounting and Economics*, 1,200; and *Accounting, Organizations and Society*, 1,400. Circulation does not imply reader-

journals are critical to any field because they are "... a means by which a community certifies additions to its body of accepted knowledge and means through which individual scientists compete for priority and recognition." TAR is a uniquely important medium because it is widely recognized as a barometer of the best accounting scholarship [see, e.g., Bazley and Nikolai, 1975; Coe and Weinstock, 1983; Bublitz and Kee, 1984; Brown and Gardner, 1985; Heck and Bremser, 1986; Jacobs, et. al., 1986; Beattie and Ryan, 1989].

TAR is also unique in that it is not a proprietary journal. It is published by an association whose membership *is* the U.S. accounting professoriate. TAR is situated to receive and publish articles that represent the best examples of all varieties of accounting knowledge and also to identify those elite scholars granted the power to decide which claims of accounting knowledge are validated [Williams and Rodgers, 1995]. Thus, TAR is a particularly good manifestation of the stratification process of the accounting field in the U.S. since it is regarded as prestigious and, being nonproprietary, is in theory less subject to the prejudices of any particular group of scholars.

The purpose of this paper is to provide a partial historical account of the stratification process in the U.S. accounting academy through an analysis of the patterns of research productivity in TAR from 1967 through 1993.[3] Corresponding nearly to the onset of the autonomous era of academic accounting was the creation of an editorial board at TAR in 1967, which publicly signaled the use of a review process like that at most scholarly journals. It is still in place today. Because 1967 has these two useful qualities—correspondence with the autonomous era and a public review process—it was selected as the beginning point of the analyses.

The remainder of the paper is divided into four main sections. The following section provides a theoretical framework, taken from both the philosophy and sociology of science literature, and a review of relevant studies of productivity in accounting and related disciplines. Two sections are devoted to presenting the analyses: the first to general institutional characteristics

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ship. The relevant readership of all of the above listed journals may be more-or-less the same.

[3]The year "1993" includes the January 1994 issued of TAR in order to include in the analysis the full editorial term of Professor Abdel-khalik. Thus, 1993 is a five issue year.

of productivity in TAR and the second to institutional and methodological characteristics of the "elite". The final section contains our summary and conclusions.

SOCIOLOGY OF SCIENCE AND THE PRODUCTION OF SCIENTIFIC KNOWLEDGE

Among philosophers and historians of science there is virtually universal acknowledgement that scientific rationality and knowledge production is a social activity. Disagreements among persons concerned with the nature of scientific knowledge are largely over the extent of its social construction and whether it really represents a privileged type of understanding [e.g., Popper, 1966; Lakatos, 1970; Kuhn, 1970; Feyerabend, 1975; Rorty, 1979; Fuller, 1988; Longino, 1990; Putnam, 1978; Mulkay, 1979]. Longino [1990, pp. 75-76] describes the nature of scientific knowledge as follows:

> Scientific knowledge is therefore, social knowledge. It is produced by processes that are intrinsically social, and once a theory, hypothesis, or set of data has been accepted by a community, it becomes a public resource. It is available to use in support of other theories and hypotheses and as a basis of action. Scientific knowledge is social both in the ways it is created and in the uses it serves.

Because academic fields are organized differently, they have different forms of knowledge. Whitley [1977, 1984] and Martin [1978] have noted that the manner in which scientific work is organized accounts for some of the variation in scientific knowledges [see also Fuchs and Turner, 1986; Knorr-Cetina, 1981; Hagstrom, 1965]. According to Whitley [1977, p. 28]:

> Changes in the structure of scientific production can be expected to affect the structure of knowledge produced just as the organizational arrangements in a science are linked to the organization of knowledge. The structure of scientific production here includes the day-to-day organization of work, the intellectual background to research and processes of recruitment, training and **elite formation** (emphasis added).

Accounting in the academy should be viewed as a distinct field among other academic fields which are " . . . distinct social organizations which control and direct the conduct of research on particular topics in different ways through the ability of their

leaders to allocate rewards according to the merits of intellectual contributions [Whitley, 1984, p. 7]." Blissett [1972, p. 107] likewise attributes differences in knowledge content to differences in "configurations of power" or "patterns of 'authoritative' decision making".

There has been much sociological and philosophical investigation of how social settings and resources affect the products of both the natural and social sciences. Much of the early, American research in the sociology of science was by Robert Merton [1973] and his associates [Blume, 1977; Mulkay, 1980; Glover and Strawbridge, 1985]. These researchers investigated the reward systems of various scientific fields to determine if they conformed to a normative scientific ethos that assured the reliability of scientific knowledge.[4] A most persistent result of the studies of structure of scientific fields is that they are stratified. They produce an elite whose status is most consistently related to the number of research publications and to the prestige of the department from which they received their doctorates [Merton and Zuckerman, 1973; Crane, 1965, 1967, 1970, 1972; Hargens and Hagstrom, 1967; Hagstrom, 1971; Cole and Cole, 1973; Allison, 1980; Long, 1978; McGinnis, et.al., 1982].[5] A primary concern is whether movement into the elite, which affords an individual power to assert and judge knowledge claims, is a "fair game", i.e., whether universal or particularistic norms govern ascension into the elite.[6]

Longino, [1990, p. 76] concluded that the claim to objectivity of any field's knowledge depends on its structure, specifically, whether that structure permits "transformative criticism". Objectivity of knowledge depends on the extent to which the

[4]The scientific ethos is comprised of four institutional imperatives [Merton, 1973]: universalism, communism, disinterestedness, and organized skepticism. Research within the Mertonian functionalist tradition has effectively demonstrated that these norms are largely irrelevant in the conduct and recognition of scientific achievement [see, e.g., Blume, 1977, Mulkay, 1976a, b].

[5]Stratification by number of publications has been shown in a number of fields to follow an inverse square law or Lotka's law after the man who first proposed it [Lotka, 1926; Price, 1963]. See Chung and Cox [1990] who demonstrated the effect for the finance literature and Chung, et. al. [1992] who observed the same effect for the accounting literature.

[6]Turner [1960] characterized means of movement into the elite as either sponsored or contest mobility. Sponsored mobility refers to movement into the elite being largely determined by social relationships with an existing elite, which is a criterion not open to all. Contest mobility refers to movement into the elite being determined by satisfying universal norms, theoretically a criterion open to all.

organization of a scientific community permits satisfying the following four criteria:

(1) there must be recognized avenues for the criticism of evidence, of methods, and of assumptions and reasoning;
(2) there must exist shared standards that critics can evoke;
(3) the community as a whole must be responsive to such criticism;
(4) intellectual authority must be shared equally among qualified practitioners [Longino, 1990, p. 76].

A field whose norms are universalistic meets these four criteria more fully than a field whose norms for deciding eliteness are more particularistic.

Indeed, within the U.S. field of accounting, for some time, there has been much controversy involving the extent to which Longino's criteria of objective knowledge are met. Many critics of U.S. accounting scholarship, particularly of principal/agent research have contended that a restrictive orthodoxy plagues the knowledge production process in the U.S. [Tinker, et.al., 1982; Christenson, 1983; Chua, 1986; Hines, 1988; Tinker, 1988; Whitley, 1988; Arrington and Francis, 1989; Williams, 1989, 1992; Arrington, 1990; Sterling, 1990; Cooper and Zeff, 1992; Arrington and Schweiker, 1992]. Responding to the criticisms, Watts and Zimmerman evoke the "marketplace" metaphor to argue that positive accounting theory meets the Longino criteria writing that

> Despite what critics think methodology should be, the methodologies that survive are the ones that produce useful theories. Competition in the market place of ideas will produce future research that uncover the errors of the present ways [Watts and Zimmerman, 1990, p. 948].

Further, apparently believing tellingly, they add

> The methodology criticisms have failed the market test because they have had little influence on accounting research. Researchers have not changed their approach. **Referees and editors of journals have not asked researchers to alter their methodology based on these published critiques** [Watts and Zimmerman, 1990, p. 149] (emphasis added).

Of course, this defense rests entirely on the extent to which there is actually a "marketplace" in accounting in which the

value of ideas and methods is based on their capacity to enlarge the field as opposed merely to enlarging reputations.[7] The incongruity between there being simultaneously a genuine "marketplace" and a "crisis" in the U.S. accounting academy should not escape notice.

Assessing whether universalistic or particularistic norms are more characteristic of the stratification process at TAR requires consideration of two notable features of the field. The first is the significant growth in number of institutions offering Ph.D. instruction and the consequent increase in the number of doctorally educated accountants. During the time covered by this study the compound growth rate in the number of U.S. Ph.D.s was approximately seven percent. From 1966 through 1993, fifty-five new PhD programs were created at U.S. universities to meet the demand that was capable of sustaining such a significant rate of growth. The rapid increase in the number of persons vying for space in academic journals would lead to the expectation that there might be some dilution in the concentration of academic productivity by institutional origins. There is evidence that this has happened in the field of finance [Heck and Cooley, 1988; Heck, et.al., 1986]. Since the barriers to entry into accounting research are not nearly so great as for many of the physical sciences, which require costly equipment and laboratories, some dilution of productivity by institutional origins should be expected in accounting, too.

The second characteristic that must be considered is that accounting is a low paradigm consensus field [AAA, 1977]. This means that standards of good scholarship are not universally agreed upon. Research indicates that eliteness connotes particularism to a much greater extent in low paradigm than in high paradigm fields. High paradigm consensus fields, which are the natural sciences, are characterized by a presumption in favor of publishing articles and, thus, have very high journal acceptance rates [Merton and Zuckerman, 1973; Hargens, 1988]. Low paradigm consensus fields, which are the social sciences, are characterized by a presumption in favor of not publishing scholarly texts and, thus, have very low journal acceptance rates [Merton

[7]Strassman [1993] has argued that in the field of economics there is not a free market, but instead a method of explanation acting as a disciplinary discourse. Recently, Tinker and Puxty [1995] published a book length study of the "policing" of the discussion surrounding Watts and Zimmerman's [1979] market for excuses paper.

and Zuckerman, 1973; Hargens, 1988]. Accounting journals have low acceptance rates [Vargo and Agudelo, 1991].

A consequence of low consensus in a field is that:

> . . . when there is dissensus, uncertainty, and the absence of such commonly shared standards, it is also inevitable that particularistic standards, deriving from the decision - maker's position in the social network and **status characteristics** (emphasis added), will affect the decision outcome [Pfeffer et al, 1977, p. 940].

Pfeffer, et al. [1977] tested this proposition and found no evidence of particularism in chemistry but strong evidence for particularism in sociology and political science. Stewart [1983] also concluded that characteristics of decision makers had little effect on which articles are published in geology and plate techtonics.

Fields with low paradigm consensus are typically populated by "schools." Harvey [1987, p. 248, referring to Crane] states

> A school is characterized by the uncritical acceptance on the part of disciples of a leader's idea system. It rejects external influence and validation of its works. By creating a journal of its own, such a group can "by-pass the criticism of referees from other areas" [Crane, 1972, p. 87].

In school situations, two author characteristics have been demonstrated to be influential in publication decisions: degree school [Pfeffer, et al., 1977; Beyer, 1978] and manuscript characteristics, i.e., theory and method employed [Ritzer, 1975; Snizek, 1975, 1976; Snizek, et al., 1981; Yoels, 1971, 1974].

TAR is not, in theory, a "school" journal. Being an association journal in a low paradigm consensus field, the expectation would be that articles published in it would reflect a variety of methods, perspectives, or "paradigms" if it is acting indeed as a "marketplace" for ideas in which objective knowledge is produced and exchanged. Whether TAR acts in a universalistic or particularistic way in creating a scholarly elite probably can't be definitively decided. Nor is it likely that TAR can be shown to be a "school" journal. The analyses of productivity at TAR reported in this paper do provide some insights into the process of elite formation and knowledge production by TAR.

The next section contains an analysis of productivity at TAR in terms of doctoral institutions. Most disciplines are stratified into elite schools, i.e., those whose students outperform ones

from other institutions in terms of both the quality and quantity of research output. Other business disciplines are so stratified [Schweser, 1977; Klemkosky and Tuttle, 1977; Ederington, 1979; Hogan, 1986; Gibbons and Fish, 1988; Davis and Papanek, 1984; Cleary and Edwards, 1960; Graves et al., 1982; Williams, 1987; Stahl et al., 1988; Sa-Aadir and Shilling, 1988; Petry and Settle, 1988]. The next section identifies which were the elite schools in TAR during the modern period (1967-1993), which were persistent, and what changes did or did not occur among the elite in reaction to the dramatic increase in doctoral education in the U.S..

The section following that contains analyses of the individual elites. The questions addressed are (1) who were the persons designated the elite by TAR and (2) at what schools did they study and what research did they do to become successful. Such information about the elite will provide some indication about the nature of the stratification process represented by TAR.

INSTITUTIONAL CHARACTER OF THE TAR AUTHORS

Eliteness is directly associated with productivity. The measure of productivity employed in this study is the number of appearances of each person who authored or coauthored a main article or note published in TAR during the period 1967 through 1993. Adjustments for coauthorship were not made since our concern in the institutional analysis is with "publicity" of various schools, i.e., how many of a school's graduates published in TAR; using an equivalent article measure adds no more information for that purpose than a simple count of appearances. Only main articles and notes were counted under the assumption that these were most representative of academic accounting knowledge. So, for example, articles that appeared in the education or comments sections of TAR were not counted.

Table 1 contains a list of the twenty degree schools most often appearing, accompanied by the number of times graduates of each school appeared in TAR over the entire time period 1967 through 1993.[8] The results reported in the table are for those authors with degree schools reported in Hasselback [1995].

[8]The schools added to the list to comprise a first 30, accompanied by appearances in parentheses, are: Columbia (22), UNC (22), Kansas (20), UCLA (17), Missouri (16), Oregon (16), Arizona (16), Arizona St. (15), Pennsylvania (15), Washington U. (14).

Many authors appeared in TAR who had no graduate degree or whose graduate degree was not in accounting; these authors are excluded from all analyses, except for the analyses of the works of individual elites reported later.

TABLE 1

Appearances in TAR: 1967 - 1993 by School of Author's Degree

School	Start of Degree Program	Total Appearances
1. Illinois	1939	137
2. Chicago	1922	87
3. Ohio State	1950	85
4. Stanford	1939	84
5. Texas	1934	72
6. Michigan	1939	66
7. Michigan State	1959	64
8. U. of Wash.	1956	53
9. Minnesota	1936	50
10. Berkeley	1929	49
11. Carnegie Mellon	1959	41
12. Florida	1956	38
13. Cornell	1968	36
14. Wisconsin	1953	36
15. NYU	1944	35
16. Iowa	1951	29
17. Northwestern	1956	28
18. Penn State	1967	26
19. Indiana	1950	25
20. Purdue	1969	23

An easily notable feature of the schools listed in the table is that they have been providing PhD instruction in accounting in the United States for the longest period of time. Many of these schools are historically significant since it was their faculties who were instrumental in the founding of the AAA [Zeff, 1966; Flesher, 1991]. During the period covered by the results in Table 1, approximately 70 percent of the membership of the editorial board of TAR and 80 percent of AAA presidents (including all of the last ten) received degrees from these 20 schools. This shows that these schools are politically significant as well since few AAA presidents are among the most frequently appearing TAR authors.

A comparison of the results in Table 1 with Heck and Bremser's [1986, p. 742] comprehensive study of publishing in

TAR indicates the institutional persistence in accounting that has been observed in many other disciplines [Caplow and McGee, 1965; Berelson, 1960; Crane, 1970]. Of the twenty schools in Table 1, seventeen appear as leading degree schools in either the first, second, or both of the two periods preceding the period corresponding most closely to the period of this study (i.e., 1926-1945 and 1946-1965).[9] Only Purdue, Florida, and Carnegie Mellon have emerged in the past thirty years and of these three only Carnegie Mellon has produced graduates who have become significant as decision-makers in the editorial process at TAR [Williams and Rodgers, 1995]. However, as was noted in the previous section, significant growth in the number of other PhD granting institutions in the US could result in a dilution of the dominance of TAR by the top schools, particularly if TAR acts as a marketplace for the exchange of the best ideas and methods.

To gain some insight into whether such dilution occurred, the 1967 through 1993 period was broken into thirds and separate lists of first twenty for each period were prepared. The results are reported in Table 2.

At the bottom of the Table are the proportion of articles for each period for the twenty schools and for those fourteen schools among the overall first twenty that persist on each list.[10] The proportion of graduates in the U.S. PhD population at the midpoint of each period for each group of schools is also provided [taken from Hasselback, 1982, 1991, 1993, 1995].

Dilution of the dominance by the elite schools appears to have occurred. The proportion of appearances in TAR accounted for by the first twenty schools has declined through time as their representation in the population has declined.[11]

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[9]Twenty-three of the first 30 schools are on the two lists.

[10]These schools are: Illinois, Chicago, Ohio State, Stanford, Texas, Michigan, Michigan St., Univ. of Washington, Minnesota, Berkeley, Florida, Carnegie Mellon, NYU, and Cornell. Williams and Rodgers [1995] found that twelve of the persistent fourteen were also significant in controlling the TAR editorial board.

[11]These percentages overstate the proportion of first-twenty and persistent fourteen graduates in the relevant population. Since most of these programs are the oldest, many of their graduates are included who are deceased or well past the time when they are likely to contribute to TAR.

TABLE 2

First Twenty Degree Schools for Each Third of the Period 1967 - 1993 (appearances in parentheses)

	1967 - 1975		1976 - 1984		1985 - 1993	
1.	Illinois	(73)	Texas	(30)	Illinois	(38)
2.	Chicago	(42)	Illinois	(26)	Chicago	(30)
3.	Stanford	(34)	Ohio St.	(24)	Stanford	(29)
4.	Ohio State	(34)	Michigan St.	(24)	U. of Wash.	(28)
5.	Michigan	(33)	Stanford	(21)	Texas	(27)
6.	Mich. St.	(25)	Car. Mel.	(16)	Ohio St.	(27)
7.	Berkeley	(20)	Cornell	(15)	Iowa	(22)
8.	Minnesota	(16)	Chicago	(15)	Minnesota	(21)
9.	Texas	(15)	Michigan	(13)	Florida	(21)
10.	U. of Wash.	(14)	Berkeley	(13)	Michigan	(20)
11.	Wisconsin	(13)	Minnesota	(13)	Wisconsin	(19)
12.	Penn St.	(11)	Nthwest.	(12)	Berkeley	(16)
13.	Florida	(11)	U. of Wash.	(11)	Car. Mel.	(15)
14.	Purdue	(10)	NYU	(11)	Michigan St.	(15)
15.	Car. Mel.	(10)	Purdue	(10)	NYU	(15)
16.	NYU	(9)	Oregon	(7)	Cornell	(13)
17.	Indiana	(9)	Kansas	(6)	Indiana	(12)
18.	Cornell	(8)	Florida	(6)	Arizona	(12)
19.	Columbia	(8)	UCLA	(6)	Penn. St.	(11)
20.	Nthwest.	(7)	Columbia	(5)	UNC	(10)
	UNC	(7)	Wash. U.	(5)		
			Arizona St.	(5)		
			UNC	(5)		
First twenty:						
	% article	83.3%		72.7%		66.8%
	% graduates	61.0%		48.6%		43.4%
Persistent 14:						
	% articles	70.1%		57.9%		52.5%
	% graduates	49.0%		39.9%		33.0%

The spread between appearance and proportion of Ph.D.s has remained nearly constant for each group for each period. This pattern is consistent with a kind of functionalist argument that the top schools are the best at producing scholars and that they are superior by a constant factor through time, i.e., they don't get better or worse relative to all other programs.

Further analysis reveals, however, that this interpretation is too facile. When we focus on the persistent fourteen, which is a more definitive elite, the spread is now actually increasing. When we make comparisons by editor, the results are more consistent with an interpretation of the stratification process at TAR being one of particularism.

Table 3 contains an analysis, by editor, of the relationship between appearances in TAR by graduates of the persistent 14 and their representation in the population of U.S. Ph.D.s at the beginning of each editor's term.

TABLE 3

Appearances by Persistent 14 Graduates by TAR Editor

Editor	Proportion of Appearances	Proportion of Degrees at Beginning of Editor's Term	Difference in Proportions
Trumbull	63.6%	63.5%	.1
Griffin	71.3	59.6	11.7
Hendrickson	75.0	53.7	21.3
Keller	61.1	50.3	10.8
DeCoster	63.0	45.2	17.8
Zeff	51.9	43.1	8.8
Sundem	47.1	38.0	9.1
Kinney	50.6	34.7	15.9
Abdel-khalik	56.6	33.0	23.6
Magee	?	31.1	

The tremendous expansion in Ph.D. output occurred just prior to Stephen Zeff's term as editor. Between 1966 and his first year as editor, 1978, there were 37 doctoral programs started at U.S. universities. Increased output of nonpersistent 14 scholars, who apparently were capable of producing quality work because it was published in TAR, is reflected in the narrowing of the differences between persistent 14 appearances and their proportion in the population during the editorships of Zeff and Sundem.

However, this trend toward less domination of TAR by a definite elite began to reverse during the term of William Kinney and continued apace during that of Rashad Abdel-khalik. By the end of the period of this study, relative domination of TAR by an elite was the greatest for any time during the entire period.[12] This is a pattern clearly more consistent with particularistic success criteria than universal ones. The next section of this paper, which deals with the elite persons, will provide more information about what the particular criteria might be.

It could be that dominance by the first twenty programs is still partially attributable to the fact that most of these programs produced scholars for many years prior to 1967. Comparing them to newer schools is the old apple and orange problem. In order to compare programs with different dates of origin, we prepared an analysis of program success for only those graduates who received their Ph.D.s in the years 1966 through 1993. Rather than focus on the raw number of appearances, the metrics used in this analysis are the proportion of persons receiving their degrees during this period who appeared in TAR at least once and the proportion who appeared more than once. These provide measures of the probability of a graduate successfully publishing in TAR given the school from which he or she received the Ph.D. degree.

Table 4 presents the measures of success for post-1965 PhDs for the first twenty programs. The number of degrees awarded during the period was taken from Hasselback (1982, 1993, 1995).[13]

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[12]Though beyond the scope of the issue addressed in this paper, it should be noted that the last ten AAA presidents (through Katherine Schipper) were graduates of persistent 14 schools. Never in the AAA's history has there been such a long succession of presidents from elite schools. This raises the intriguing question of whether the historically powerful institutions took explicit steps to reverse the dilution of their authority.

[13]Numbers of graduates for each program provided by Hasselback are occasionally revised, so the numbers presented in Table 4 are probably subject to some small error.

TABLE 4

Publication Success Measures for First Twenty Doctoral Programs

School	Degrees Awarded During the Period	Proportion of Graduates Appearing in TAR	Proportion Appearing More than Once
Illinois	216	.250	.088
Chicago	41	.610	.220
Ohio St.	84	.476	.202
Stanford	54	.556	.389
Texas	156	.218	.096
Michigan	57	.526	.175
Michigan St.	136	.199	.096
U. of Wash.	90	.289	.167
Minnesota	75	.307	.107
Berkeley	62	.339	.161
Car. Mel.	19	.789	.316
Florida	82	.244	.098
Cornell	32	.563	.188
Wisconsin	113	.212	.053
NYU	67	.254	.090
Iowa	45	.422	.133
Northwestern	46	.261	.109
Penn St.	91	.187	.066
Indiana	92	.141	.043
Purdue	21	.429	.190

Even for the elite programs, publishing success in TAR is restricted to a relatively small proportion of graduates.

The probability of appearing in TAR more than once is rather small even for graduates of the dominant programs. The probability of success is related to the size of the programs. When the probability of more than one appearance is regressed against number of degrees and type of program (public or private school), the resulting model is significant at $p < .05$ with R-square of .37. However, there is a high correlation between number of degrees and whether a school is private or public. Small programs, which tend to be private schools, have a larger proportion of their graduates appearing multiple times. But in absolute terms, state schools produce as many highly productive scholars as the private ones. For example, Illinois had nineteen graduates appear more than once while Stanford, with the highest proportion, had twenty-one. On the other hand, it is also the case that even those most elite programs have fairly substantial numbers of their graduates who have yet to appear in TAR.

The relative success of recent graduates of the elite schools is quite apparent when we compare them to the remainder of the U.S. Ph.D. programs. Ninety-one U.S. programs were in existence by 1993. The weighted average probability of appearing at least once in TAR for the first twenty schools is .306; more than once it is .125. For the first thirty, these same probabilities are .276 and .111, respectively. But for the remaining sixty-one programs these probabilities are .058 and .017. Productivity, measured as appearances in TAR, is concentrated among the first thirty schools; on average, it seems not graduating from one of these schools substantially reduces the chances for a scholar to participate in the knowledge production process through publishing in TAR.

We conducted a final analysis by institution to determine if there is indication that there are schools, not in the elite, poised to become elite programs. Some programs created after 1966 have had substantial numbers of their graduates be productive. Table 5 contains the probabilities of success in TAR for graduates of all programs that, according to Hasselback [1995], came into existence from 1966 through 1993. Three of these programs are among the first twenty and two are among the next ten.[14] But, for the most part, programs created during the period of great expansion in the capacity to educate Ph.D.s have not educated enough successful scholars to affect the domination of TAR by the historically elite schools. Indeed, among those programs whose origins as trainers of accounting scholars are genuinely post-1966, only Florida State, Maryland, and Syracuse begin to approach the levels of success of the elite schools. That becoming one of the elite strongly depends on the particularistic criterion of degree school becomes more apparent when the characteristics of the individuals who make up the elite are analyzed. That will be accomplished in the section to follow.

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[14]The starting dates for these programs are somewhat misleading for evaluating how long some of these schools have been in the "business" of educating scholars and researchers. Hasselback's dates are for accounting programs. Graduates of some of these schools, e.g., Penn, Cornell, Rochester, Penn State, Kansas, and Purdue have been doing accounting research for many, many years. They just did not graduate from the *accounting* Ph.D. programs, but from ones in economics, operations research, etc.

TABLE 5

Publication Success Measures for Graduates of All U.S. Doctoral Programs Started after 1965 (year of program inception in parentheses)

School	Degrees Awarded During the Period	Proportion of Graduates Appearing in TAR	Proportion Appearing More than Once
American (1966)	12	.083	0
Arizona (1970)	47	.299	.021
Ariz. St. (1968)	79	.127	.051
Boston U. (1986)	18	.111	0
Case/W.Res (1966)	13	0	0
Central Fla. (1991)	2	0	0
Cincinnati (1970)	35	.114	.029
Baruch (1975)	30	.133	0
Colorado (1966)	53	.151	.038
Connecticut (1992)	1	0	0
Cornell (1968)	32	.563	.188
Drexel (1985)	14	0	0
Duke (1986)	3	0	0
Fla. St. (1970)	48	.146	.063
Ga. Wash. (1969)	36	.028	0
Georgia (1970)	89	.034	0
Ga. Tech (1986)	3	0	0
Hawaii (1983)	1	0	0
Houston (1973)	63	.127	.016
Kansas (1970)	26	.308	.231
Kent St. (1970)	44	0	0
Kentucky (1973)	93	.022	.011
Lehigh (1978)	3	0	0
La. Tech. (1973)	45	0	0
Maryland (1969)	30	.133	.067
Mass. (1971)	26	.269	.038
Memphis St. (1982)	25	0	0
Miss. St. (1968)	56	0	0
N. Texas (1969)	86	.035	.012
Oklahoma (1967)	43	.093	.093
OK State (1971)	85	.071	0
Penn (1973)	17	.353	.294
Penn St. (1967)	91	.187	.066
Purdue (1969)	21	.429	.190
Rice (1989)	1	0	0
Rensselaer (1973)	1	0	0
Rochester (1972)	18	.389	.111
Rutgers (?)	5	0	0
St. Louis (1966)	31	0	0
Santa Clara (1972)	11	0	0
S. Carolina (1976)	66	.061	0
S. Fla. (1992)	3	0	0

TABLE 5

(continued)

School	Degrees Awarded During the Period	Proportion of Graduates Appearing in TAR	Proportion Appearing More than Once
S. Illinois (1988)	10	0	0
Syracuse (1970)	28	.179	.036
Temple (1981)	24	.042	0
Tenn. (1976)	46	.022	.022
Tx-Arlington (1980)	6	0	0
Tx A&M (1972)	93	.054	0
Tx Tech. (1969)	57	.053	.018
Tulane (1976)	1	0	0
Union (1989)	5	0	0
Utah (1967)	21	.048	0
Vanderbilt (1990)	1	0	0
Va. Comm. (1987)	11	0	0
Va. Tech. (1976)	58	.069	.034
Wash. St. (1989)	7	0	0

PATTERNS OF THE INDIVIDUAL ELITES AT TAR

In the theoretical development of this paper we noted that most scientific fields are characterized by having most of the published research done by a relatively small number of highly successful individuals. Individual elites shape the nature of the discipline since they acquire the power to evaluate the contributions of others who aspire to be one of the elite [Whitley, 1984; Williams and Rodgers 1995; Lee, 1995a, 1995b]. Scholarly output in most disciplines behaves in a law-like manner, referred to as Lotka's law, by following an inverse square (see footnote five). That is, research productivity relative to individual scholars is exponential with a relatively small number of individuals producing the great bulk of a field's scholarly texts. This small cadre of highly successful scholars are the field's elite who receive the awards, the accolades, and the power to direct the efforts of other scholars. The pattern of individual elites at TAR parallels that of many other disciplines—individual success follows an inverse square law.

Table 6 contains a breakdown of individuals by number of appearances in TAR for the period 1967 through 1993. We compare the actual percentages in each category to the theoretical percentages predicted by the inverse square or Lotka's law. The results in the table are perfectly consistent with those Chung,

et.al. [1992] obtained in their study of publication patterns in the leading accounting journals. Individual success in TAR tends to follow an inverse square, but with a notable difference.

TABLE 6

Proportions of Authors of Known Degree by Number of Appearances in TAR

Number of Appearances	Number of Authors	Actual Proportion	Theoretical Proportion by Inverse Square
One	541	63.2%	60.8%
Two	166	19.4	15.2
Three	73	8.5	6.8
Four	31	3.6	3.8
Five	20	2.3	2.4
> Five	25	2.9	11.0

The number of persons with known degrees who appear in TAR three or fewer times is greater than the theoretical prediction. Given 856 persons with accounting degrees appeared in TAR during the period (1106 persons appeared, in total), Lotka's law would predict only 709 of them to appear one, two and three times. The actual number exceeded this expectation by 71 persons. For four and five appearances the expected and actual numbers are nearly the same. At the "elite" end, however, the actual number is much lower than the theoretically expected one: 25 compared to 94. The apparent effect of the stratification process at TAR is to restrict access to elite status. Of the persons capable of publishing in TAR, a much smaller number achieve elite status than a theoretically expected number.

When we classified the groups of authors by degree school and school of employment at time of first appearance, the extent to which school is related to ascension into the elite is apparent. Table 7 contains a series of contingency tables prepared for each grouping of authors, i.e., those that appeared once, twice, etc.

TABLE 7

Number of Authors by Degree School by Resident School by Number of Appearances

	Started at First 20		Started at Nonfirst 20		Total	
One Appearance						
First 20 Degree	129		215		344	(64%)
Nonfirst 20 Degree	26		171		197	(36%)
Total	155	(29%)	386	(71%)	541	
Two Appearances						
First 20 Degree	58		56		114	(69%)
Nonfirst 20 Degree	13		39		52	(29%)
Total	71	(43%)	95	(57%)	166	
Three Appearances						
First 20 Degree	24		23		47	(64%)
Nonfirst 20 Degree	8		18		26	(36%)
Total	32	(44%)	41	(56%)	73	
Four Appearances						
First 20 Degree	14		9		23	(74%)
Nonfirst 20 Degree	2		6		8	(26%)
Total	16	(52%)	15	(48%)	31	
Five or More Appearances						
First 20 Degree	29		11		40	(89%)
Nonfirst 20 Degree	2		3		5	(11%)
Total	31	(69%)	14	(31%)	45	

For each author for which it was possible, we identified his or her degree school as to whether it was a first twenty or not and we did likewise for the school at which they resided when they *first* appeared in TAR. It is quite clear that as authors become more successful, i.e., appear more often in TAR, the more likely they are to have a degree from a first 20 school and/or to have started their careers at one. Eighty-nine percent of those with five or more appearances have first 20 degrees; seventy-eight percent have persistent 14 degrees. Only two individuals in the five or more category had non-first 30 degrees.[15] The prevalence of inbreeding is also evident: there were only 51 people with degrees from other than a first 20 school who started their ca-

[15]There are 46 persons with five or more appearances. One of them is not listed in Hasselback, thus, he is excluded from Tables 6 and 7.

reers at one. Elite schools recruit faculty from other elite schools. One who is not a product of an elite school has a much smaller chance of joining the elite and becoming a highly successful publisher in TAR.

When these results are viewed in the context of the results of editor effect which appear in Table 3, it strongly suggests that there exists a social network within the academic accounting community in the U.S. that provides a significant element of sponsorship to the elite formation process at TAR. To speak often in TAR appears to depend to a rather significant extent on whether a person is a part of this social network.

The other significant characteristic beside degree school that is indicative of particularism in low paradigm consensus fields like accounting is the prevalence of "schools," which adhere to particular methods, theories, perspectives, assumptions, etc. In other words, how knowledge is constructed will vary more in low paradigm consensus fields than high consensus ones. If TAR creates elites through a process that approximately satisfies Longino's [1990] four criteria for objective knowledge, elites at TAR should tend to cluster, i.e., produce knowledge in different ways. To determine how the elite at TAR created knowledge during the 1967 through 1993 period, we conducted two analyses of the articles produced by the individual elite. The first describes their work in terms of the classification scheme developed by Brown, et. al. [1989], the second in terms of the texts upon which they relied for producing their work. The elite were defined as all those persons appearing five or more times.[16] Since degree school is not relevant to the analyses that follow, the individual excluded from Tables 6 and 7 was included in the subsequent analyses, making the number of elite, 46.

Classifications of Elites' Articles in TAR

Brown, et. al.'s [1989] Accounting Research Directory provides a four dimensional system for classifying accounting texts. Their Directory classifies all major articles published in six accounting journals for 1963 through 1988 in terms of "Mode", "Method", "School", and "Treatment". Not all of the works by

[16]Publishing in TAR gives these individuals substantial influence since other accounting scholars must acknowledge them when producing other knowledge claims. According to Merton and Zuckerman [1973], Price [1963] and Ravetz [1971], the history of the scientific journal indicates that its primary function is to establish property rights over knowledge claims. The practice of citation is merely acknowledging the claim of knowledge possessed by another scholar.

the individual elite included in Table 6 were classified in the Directory since it did not classify "Notes" and did not include the years 1989 through 1993. In order to insure that the same classification process was applied to all articles, we decided not to classify the elites' articles and notes not included in the Directory. The tradeoff was between losing some information and confounding the comparability of texts with different classifiers. Since so few articles of the elite were not included in the Directory, the information lost was small and any classification bias was avoided. Thus, the following analysis is based only on elite texts classified by Brown, et. al. The classification scheme is instructive in itself since the categories for all but "Treatment" are rather limited yet, apparently, sufficient to classify all accounting literature.

We provide two descriptions of articles produced by the elite. One is in terms of when the authors received their Ph.D. degrees; this result appears in Table 8.

TABLE 8

Proportions of Articles Classified in Each Dimension by Degree Date of Author

	Mode		Method		School		Treatment	
Pre 1970								
	Anal.	(47%)	Int. Log.	(75%)	Theory	(35%)	Val/Infl.	(12%)
	Qual.	(33%)	Primary	(13%)	Math. Pgm.	(13%)	Fin. Act. Meth.	(12%)
							Budg. & Plan.	(9%)
					Info. Ec.	(11%)	PPE	(7%)
					N/A	(11%)	Mgl.	(7%)
					Other SM	(11%)		
1970's								
	Anal.	(26%)	Int. Log.	(39%)	Other SM	(18%)	Fin. Acc. Meth.	(11%)
	Reg.	(24%)	Prim.	(26%)	Theory	(18%)	Inv.	(9%)
	Qual.	(13%)	Lab	(20%)	EMH	(15%)	Oil & Gas	(5%)
	Des. Stat	(12%)			Info. Ec.	(11%)	Sampling	(5%)
	ANOVA	(12%)			HIPS	(10%)	Cost Alloc.	(5%)
							Other Fin. ACC	(5%)
1980's								
	Reg.	(67%)	Lab	(58%)	Other Behav.	(33%)	Bud & Plan	(33%)
	Des. Stat	(17%)	Primary	(42%)	HIPS	(17%)	Fin. Act. Meth.	(17%)
	ANOVA	(17%)			Info. Ec.	(17%)	Judgment	(17%)
							Exec. Comp.	(17%)

Legend:
Anal. = Quantitative: Analytical; Qual. = Qualitative; Reg. = Regression; Des.Stat. = Descriptive Statistics; ANOVA = Analysis of Variance; Int. Log = Analytical Internal Logic; Primary = Archival: Primary; Lab = Empirical: Lab; Math. Pgm. = Stat Model: Mathematical Programming; Info. Ec. = Stat Model: Information Economics/Agency; HIPS = Human Information Processing; EMH = Stat. Model: Efficient Market Research.

The second is in terms of when the articles were published; this result is in Table 9.

TABLE 9

Proportions of Articles Classified in Each Dimension by Decade of Publication

Mode		Method		School		Treatment	
1960's							
Anal.	(56%)	Int. Log.	(90%)	Theory	(44%)	Fin. Act. Meth.	(14%)
Qual.	(34%)			Math Pgm.	(22%)	Variances	(12%)
				Info. Ec.	(10%)	PPE	(10%)
				Other Stat.	(10%)	Val./Infl.	(8%)
				N/A	(10%)	Bud. & Plan.	(8%)
						LT Debt	(8%)
						Mgrl.	(6%)
						Rel. Costs	(6%)
1970's							
Anal.	(43%)	Int. Log.	(61%)	Theory	(26%)	Fin. Act. Meth.	(12%)
Qual.	(28%)	Primary	(19%)	Other Stat.	(16%)	Val./Infl.	(11%)
Reg.	(9%)			N/A	(13%)	Bud. & Plan	(8%)
				Info. Ec.	(12%)	Other Fin. Acc.	(6%)
				Other Behav.	(11%)	Inv.	(5%)
1980's							
Reg.	(34%)	Int. Log.	(32%)	EMH	(17%)	N/A	(7%)
Des.Stat.	(21%)	Lab	(32%)	Theory	(17%)	Judgement	(7%)
Anal.	(14%)	Prim.	(26%)	Other Behav.	(14%)	Fin. Act. Meth.	(7%)
ANOVA	(14%)			Other Stat.	(13%)	Manag.	(6%)
Qual.	(10%)			HIPS	(11%)	Bud. & Plan	(6%)

Legend: See legend Table 8

There have been some notable changes in the texts produced by elite scholars through time. To avoid unwieldiness, Tables 8 and 9 contain for each of the four dimensions the proportion of articles falling into each category that exceeded 10 percent for the first three dimensions and 5 percent for "Treatment". Men who received their Ph.D.s prior to 1970 relied on an analytical mode, a method of internal logic, and concerned themselves heavily with accounting theory. This is shown in Table 9 because the articles published in the late 1960s and 1970s reflected these same modes, methods, and schools.

The change in accounting knowledge production noted by

Zeff [1978] and Flesher [1991] is reflected in the changes that occurred with those authors receiving their Ph.D.s during the 1970s. Preferred modes for these men included a substantial representation of statistical models that were of minor importance to the generation before. Lab experiments and data tapes rose in importance; accounting theory diminished in importance. These changes in epistemological preferences of authors are reflected in the changes in articles between the 1970s and 1980s. Scholarly accounting texts in the 1980s reflected the general positivist methodology characteristic of most of the modern social sciences.

The changes reflected in Tables 8 and 9 indicate that elite who received their education early produced accounting knowledge that was more eclectic than those elite who received their degrees during the 1980s. Only two types of elite were created during the 1980s: those whose work was based in behavioral theory and those whose work was based in economic and finance theory. However, as a subsequent analysis will indicate, there has been a further narrowing in the approach to textual production by the elite at TAR.

Since virtually all of the producers of the texts were educated at the same set of elite schools, these changes in accounting knowledge production occurred within the same set of institutions. Though these changes could have been brought about by competition between different "schools" of thought (social networks of like-minded scholars), it seems clear that these schools were not geographically different. The transition to a modern way of accounting scholarship occurred within universities, not between them.

Another interesting characteristic of accounting knowledge production is suggested by the average for each of the dimensions. Table 10 presents averages for each dimension by appearance and by author. The average by appearance was determined by dividing the total counts for each dimension by total appearances; the average by author was determined by dividing the total counts for each dimension by the total number of authors. Accounting knowledge production by the elite is driven more by method than by topic. The .78 average for treatment indicates that nearly each time an author appeared, he dealt with a different topic. But the .40 average for method indicates the same method was used to produce multiple articles.

TABLE 10

Average Number of Different Dimensions Per Appearance and Per Author

	Mode	Method	School	Treatment
Per Appearance	.55	.40	.58	.78
Per Author	2.98	2.17	3.17	4.26

No one became elite by researching a particular accounting problem, e.g., pensions, in great depth. The elite, on average, don't investigate one problem with many methods, but investigate many problems with just a few methods.

The Brown, et. al. [1989] dimensions are only one way, and, perhaps, a rather limited way to describe accounting knowledge. A characteristic of accounting knowledge production in the academy is the utilization of theories, methods, etc. from other disciplines. For example, efficient market theory and research has its origins in financial economics, not accounting. Indeed, most academic ways of understanding accounting are ways of understanding created elsewhere in the academic universe and imported into accounting. Thus, another useful method for describing the accounting knowledge produced by the elite is through citation analysis of the various texts they used in creating their work (see, e.g., Snowball's [1986] study of behavioral accounting research). In the next section the results of an analysis of the bibliographies of all the articles produced by the individual elite will be presented. We focus particularly on the types of scientific journals upon which accounting scholars relied.

Citations by the Individual Elite in TAR

Bibliographies of all notes and articles produced by the individual elite were used to identify the scholarly journals that have been the most important in helping the elite construct accounting knowledge. Table 11 presents the proportions of citations to scholarly journals by discipline for the entire period 1967 through 1993. "Books" was the largest non-serialized

TABLE 11

Proportion of Citations by Elite to Scholarly Journals in TAR by Discipline for the Period 1967 - 1993

	Total Citations	Proportion
Non-Journal Citations:		
Books	1413	25.4%
Other	804	14.5
Journal Citations:		
TAR	782	14.1
JAR	576	10.4
JoA	128	2.3
All other Acctg.	366	6.6
Statistics	136	2.4
OR/Eng./Math	103	1.9
Economics	264	4.8
Psychology	218	3.9
Sociology	5	—
Business/Mgt.	336	6.0
Finance/Banking	277	5.0
Law	35	.6
Tax	12	.2
Others	102	1.8

source for these authors; "other", which included dissertations, working papers, monographs, research reports, and standards, (e.g. FASB Standards, APB Opinions, SEC regulations, tax codes, etc) was second.

Of scholarly journals, TAR and the *Journal of Accounting Research* (JAR) are the most often cited, combining for nearly 25 percent of all citations. Sources closely allied to accounting within business are management and finance. From the social sciences, economics and psychology are the principal disciplines from which sources are cited. This is consistent with our analysis that employed the Brown, et. al. [1989] framework, since that revealed that the two contemporary groups of elite were behavior and economics based.

Equally revealing about the nature of knowledge production at TAR is what isn't represented. Accounting is a profession, yet there are no references to ethics literature. Accounting is done to and by organizations, yet there are virtually no references to sociology literature. Accounting makes rules affecting a wide diversity of people, yet there are few references to law literature and none to political science. Accounting is an old activity, yet there are no references to history literature. Accounting, mun-

danely, is about levying and paying taxes, yet there are remarkably few references to tax literature. A considerable amount of what accounting is, is simply missing from TAR. As discussed in the theoretical development, this is contrary to expectations for a low paradigm consensus field like accounting if TAR acts as a genuine "marketplace" for ideas.

In order to provide more specificity to the citation analysis, we analyzed the various journals cited to determine which ones were most frequently cited and whether there were changes occurring over time. During the 27 year period of this study, elite authors introduced 290 different scholarly journals into the accounting literature through citations. Sixty percent of them were never cited beyond the year in which they appeared in a bibliography. Another 28 percent were cited in less than 30 percent of the years after their first introduction. The scholarly journals that are significant, continuing sources of knowledge for the production of TAR articles are quite few in number. Exhibit 1 contains a listing of those journals that appeared in thirty or more percent of the years after the year of their first introduction. These are the journals that have had more than an ephemeral effect on the production of accounting knowledge at TAR. The two groupings of economics and behavioral based research are reflected in the Exhibit. Finance and economics journals are more persistent than behavioral journals. Recently, elite authors appearing in TAR have not included those relying on behavioral literature (e.g. *Psychological Review*, *Psychological Bulletin*).

EXHIBIT 1

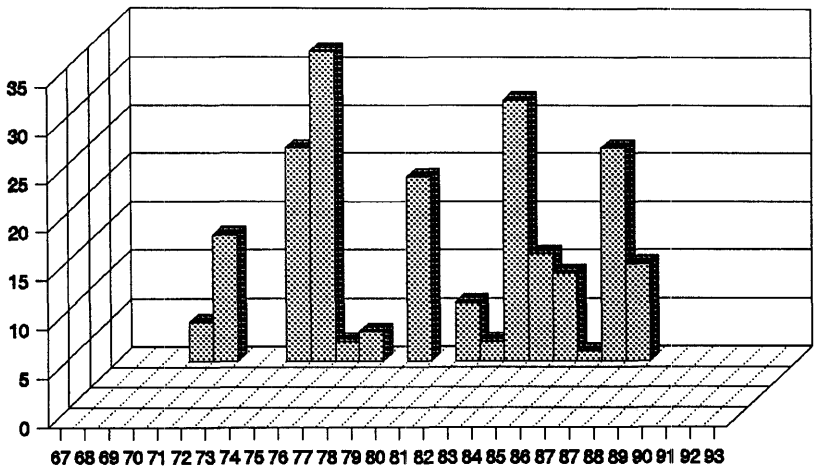
Lists of Journals by Percentage of Years Cited After First Appearance

Percent of Years	Journal	First Cite	Last Cite
30%	Operations Research	1967	1984
	Psychological Review	1970	1988
	Biometrika	1971	1991
	J. of Law & Econ.	1976	1992
	Decision Sciences	1976	1993
	J. of Econometrics	1977	1989
	Financial Mgt.	1983	1989
	Public Choice	1990	1992
40%	Harvard Business Review	1967	1988
	Management Accounting	1967	1984
	Financial Analysts J.	1968	1992
	JFQA	1968	1993
	Org.. Behav. & Hum. Perf.	1974	1988
50%	JASA	1967	1992
	Psychological Bulletin	1974	1988
	JAPP	1989	1992
	Accounting Horizons	1991	1992
60%	Econometrica	1968	1993
	J. of Political Economy	1970	1991
	AOS	1979	1993
	JAAF	1980	1993
70%	Management Science	1967	1992
	J. of Business	1967	1992
	Amer. Econ. Rev.	1967	1993
	AJPT	1982	1993
	JAL	1983	1991
80%	Journal of Accountancy	1967	1993
	Journal of Finance	1968	1993
	Bell J.	1973	1993
	J. of Financial Economics	1978	1993
	CAR	1988	1993
90%	JAE	1979	1993
100%	JAR	1967	1993
	TAR	1967	1993

Figure 1 is a bar graph of citations to psychology journals by members of the elite 46 for each year 1967 through 1993. Psychology literature appears for the first time during the period in 1970 and fluctuates from year to year thereafter, peaking on a regular four-year cycle. However, during the last five years, there have been no references to any psychology literature by elite scholars appearing in TAR. This is particularly strong evidence for TAR employing particularistic criteria. For eighteen years one could become one of the accounting elite relying upon the psychology literature to produce accounting knowledge. That appears to have come to a rather sudden end and appears to have coincided with the arrival of the two most recent TAR editors. That a leading association journal could eliminate from its content elite discourses of one of its already limited "paradigms" is not as consistent with universalistic criteria and a free market for ideas as it is with the application of some particularistic criteria.

FIGURE 1

Citations to Psychology Journals by Elite 1967-1993



In the theoretical development of this paper we indicated that in low paradigm consensus fields manuscript characteristics, i.e., theory and method, are important particularistic crite-

ria. The listings in Exhibit 1 are based only on the number of years a journal appeared in any article; they may not be representative of the manuscript characteristics of the elite since total citations to some of them could be relatively small.

To determine the most significant journals in terms of manuscript characteristics and to evaluate their changing significance through time, we determined total citations to all journals for each of three periods. These results for the first ten journals in each period are presented in Table 12. Beside each entry are the average citations per article and a normalization index showing the average citations of each journal relative to TAR. Below each column is the information about what happened to those journals during those periods when they were not a first ten journal.

TABLE 12

Ten Most Frequently Cited Journals by Elite for Each Third of the Period 1967 - 1990

1967 - 1975 115 articles		1976 - 1984 90 articles		1985 - 1993 53 articles	
TAR	2.79 (1.00)	TAR	3.43 (1.00)	JAR	3.17 (1.09)
JAR	1.40 (0.50)	JAR	2.74 (0.80)	TAR	2.91 (1.00)
Mgt. Sci.	.60 (0.22)	JoA	.92 (0.27)	JAE	2.26 (0.78)
Op. Res.	.31 (0.11)	JoF	.68 (0.20)	JFE	.72 (0.25)
JoB	.30 (0.11)	JoB	.42 (0.12)	JoF	.62 (0.21)
JoA	.29 (0.10)	JFE	.34 (0.10)	Bell J.	.49 (0.17)
JoF	.21 (0.08)	AER	.33 (0.10)	AER	.42 (0.14)
JASA	.20 (0.07)	JAE	.30 (0.09)	AJPT	.40 (0.14)
Econometrica	.17 (0.06)	Bell J.	.28 (0.08)	Econometrica	.36 (0.12)
AER	.17 (0.06)	HBR	.28 (0.08)	JAL	.28 (0.10)
				JOA	.28 (0.10)
		Op. Res.	.03 (0.01)	Op. Res.	0 (0)
		JASA	.17 (0.05)	JASA	.11 (0.02)
		Econometrica	.11 (0.03)	JoB	.17 (0.06)
		Mgt. Sci.	.20 (0.06)	Mgt. Sci.	.26 (0.09)
Bell J.	.03 (0.01)			HBR	.02 (0.01)
JFE	0 (0)				
JAE	0 (0)				
HBR	.28 (0.08)				
AJPT	0 (0)	AJPT	.01 (0.00)		
JAL	0 (0)	JAL	.04 (0.01)		

A number of important observations need to be made. The first is that the nature of scholarly accounting texts changed rather significantly from the first to last period. Average citations were smaller in the earliest period; bibliographies contained fewer entries. With each successive period, the average citations have grown. Bibliographies are larger now than in the earliest period. Producing articles now requires acknowledging a more extensive debt to other scholars.

A second important change is the increase in relative importance of other journals. In the earliest period, TAR was the most important journal. With perhaps the exception of JAR, other accounting journals were of generally less significance. Early TAR texts were constructed largely out of other TAR texts. Journals from non-accounting disciplines were relatively unimportant. In the last of the three periods, other accounting journals are relatively far more important, with JAR now more significant than TAR. The relative importance of non-accounting, economics journals is also greater.

The third important change is that a shift from a managerial emphasis to a financial economics emphasis has occurred. The early introduction of the more "scientific" form of text into TAR, i.e., those that used a quantitative discourse, was done through managerial applications to accounting. This is reflected in the importance of *Management Science* and *Operations Research*. But by the end of the third period, the relative importance of these journals has dropped substantially to be replaced by the *Journal of Accounting and Economics* and the *Journal of Financial Economics*.

The most notable change is that by the third period the three journals of most importance besides TAR are all acknowledged to rigidly adhere to a distinct economic and political orthodoxy. Two of the journals are published at Rochester, the other at Chicago. By 1993, TAR has taken on the characteristics of a journal largely dedicated to a single methodology.

A final, notable observation is that during the most recent period the accounting texts that are used to construct articles in TAR are the acknowledged top three U.S. journals. In a low paradigm consensus field like accounting, we would expect to see different prestigious journals representing different paradigms. But all of the prestigious accounting journals published in the U.S. are similar enough that the TAR elite rely most heavily on the other two in constructing their articles.

This suggests that accounting in the U.S. has managed to achieve the appearance of paradigm consensus even though none exists.

SUMMARY AND CONCLUSIONS

The Accounting Review is a significant medium through which accounting knowledge is disseminated. Its process of selection, therefore, affects what comes to be accepted as genuine accounting knowledge. TAR, like most social science journals, reflects the stratification phenomenon characteristic of academic disciplines. Just as in other academic disciplines, the strata or elites are related to graduate institutions and to types of discourse employed to construct knowledge claims.

Certain universities are historically important because their faculties were instrumental in the creation of the AAA. Graduates of these universities still dominate authorship in TAR. This is consistent with studies of other academic disciplines; power to control the knowledge production process in a discipline is not going to be voluntarily relinquished. The structure of the AAA, where the leadership is decided by those who have already led, makes the likelihood that the elite institutions will decline in significance very small. The most important practical implication of the persistence of elites is for many members of the accounting academic community to adopt a more realistic position on standards of scholarly productivity. A non-elite school should not demand that a non-elite graduate on its faculty publish in TAR before rewards like tenure are forthcoming. Institutional forces are strong; where a scholar went to school significantly affects chances for success in publishing in TAR.

Our results also suggest that TAR will not soon become a tool by which the crisis in the academy discussed in the introduction will be repaired. Through time, knowledge production at TAR has increasingly depended upon more extensive citing of scientific texts from other social sciences, most notably financial economics. TAR has acted through time to restrict, rather than enlarge, accounting's intellectual potentialities. TAR's purpose seems now to produce *academic* reputations. The problems of most teachers and practitioners of accounting are quite removed

[17]For an excellent discussion of why academic discourses are seldom useful to practitioners for solving work-a-day problems see Abbot [1988]. For an extensive discussion of the reputational system in academia and the role of the journal in the process see Whitley [1984].

from such a process.[17] This paper has demonstrated that TAR is characterized by an elite, but only faintly reveals the nature of the process that creates that elite. An important question in the sociology of accounting knowledge is how a low paradigm consensus field like accounting is able to create consensus. The typical situation with journals in other low paradigm consensus fields is that they are controlled by competing "schools" [Harvey 1987]. Such fields will have a number of prestigious journals that represent alternative discourses; very little cross-citation occurs between them. But the results of this study demonstrate that TAR, one of the three highest ranking U.S. journals, relies on the other two U.S. journals the most heavily. There is apparently paradigm consensus in the U.S. because the elite journals construct knowledge claims in the same way. Understanding how that consensus is created and enforced would add considerably to our understanding of the nature of accounting knowledge, and, perhaps, suggest strategies for extricating ourselves from the crisis in the academy.

A related issue is the question of how individual elites persistently come from the elite institutions. Barriers to entry in accounting research are quite low. Many of the natural sciences require costly investments in laboratories and equipment; being first creates a distinct advantage.[18] But doing accounting research requires very little investment; virtually any U.S. university can provide the accounting academic with the material wherewithal to do accounting research. Yet almost no academics reach the level of greatest productivity in accounting unless they attend a certain set of universities. This is suggestive of a social network that acts partially as a system of sponsorship into the elite. Understanding more specifically the extent to which this system acts to create elites and how it does so would deepen understanding of the nature of accounting knowledge produced in the academy and help explain why the elite are so disenchanted with the products of a process of their own creation.

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[18]Merton [1968] coined the term "Matthew effect" to describe this phenomenon. The term is an allusion to the parable of the talents in the book of Matthew, chapter 23, verse 29 (King James version): "For unto every one that hath shall be given, and he shall have abundance; but from him that hath not shall be taken away even that which he hath."

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